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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,388	09/02/2008	Paul Frederic Robbins	134-03	8562

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EXAMINER	
YAO, LEI	

ART UNIT	PAPER NUMBER
1642	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/595,388	ROBBINS ET AL.	
	Examiner	Art Unit	
	LEI YAO	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *1-10 and 15-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/2/2008* .
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of group II (claims 11-14) with species HLA DRβ1*1301 allele in the reply filed on 6/30/2010 is acknowledged. The traversal is on the ground(s) that the reference by Gu et al teaches a protein that includes, but is not limited to SEQ ID NO: 6 (14 amino acids). This is not found persuasive because the claims reciting "a vaccine comprising a peptide that comprises all or immunogenic part of the sequence of SEQ ID NO: 6". Thus the claims do not require the peptide in the vaccine being limited to the sequence of SEQ ID NO: 6. Further, the peptide of Gu is a131 amino acid peptide and comprises the full sequence of SEQ ID NO: 6, which would have the property of the claims, that is, processed and expressed by sympathetic MHC class II molecules of APC (antigen presenting cell) and stimulating an anti-cancer response against COA-1. Thus, the peptide of Gu et al, as a special technical feature, is a prior art for claimed product and the product comprising the peptide does not make a contribution for the art. Under PCT rule, the unity of the inventions as claimed is lacking. Therefore, the requirement is still deemed proper and is therefore made FINAL.

Claims 1-21 are pending.

Claims 1-10 and 15-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claims 11-14, drawn to a vaccine comprising a full or part of the sequence of SEQ ID NO: 6 that is processed and expressed by APC in association with a sympathetic MHC molecule, are examined on the merits. The MHC is examined to the extent of HLA DRβ11301 allele.

Information Disclosure Statement

The information disclosure statement (s) (IDS) submitted on 10/2/2008 are/is considered by the examiner and initialed copies/copy of the PTO-1449 are/is enclosed.

Specification

1. The use of the trademark FACSVantage™ (page 15 and 16) has been noted in this application. The trademark should be capitalized and with symbol wherever it appears and be accompanied by the generic terminology. Corrections are required.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks. Applicant should check entire application and appropriate.

2. The specification recites sequence set forth SEQ ID NO 1 and SEQ ID NO 6 (page 2) and SEQ ID NO.9 and SEQ ID NO.10 (page 2, figure 1) etc . The formal recitation for sequence should be SEQ ID NO: 6. Appropriate correction is appreciated.

Claim Objections

Claims 11-14 are objected to because of the following informalities:

The clam 13 recites "PBMC's expressing…..". The specification teaches PBMC's (peripheral blood mononuclear cells, page 4, line 4). If term "PBMC's" is intended to be the plural form of mononuclear cells isolated from peripheral blood, should the cell be called PBMCs or PBMC?. Appropriate correction or clarification is required.

Claim 11 recites sequence set forth SEQ ID NO 6. The formal recitation for sequence should be SEQ ID NO: 6. This renders the depending claims being objected to. Appropriate correction is appreciated.

Claim Rejections - 35 USC § 112

The following is a quotation of the **second paragraph** of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are indefinite in the recitation of "sympathetic MHC class II …" because the claims fail to state the structure which is to be related. The term "sympathetic MHC class II" is not defined by the claims and the instant specification. It is not a term of art. The specification teaches two specific MHC molecules, HLA DRβ1*1301 and HLA DRβ1*0402, but does not state the relation with the sympathetic MHC class II. Thus, one of ordinary skill in the art would not be reasonably apprised of the metes and bounds of the invention.

It is suggested to amend the claim to recite the particular characteristics of "sympathetic MHC class II" intended, including the relation with claimed peptide of SEQ ID NO 6. Applicant should specifically point out the support for any amendments made to the disclosure. See MPEP 714.02 and 2163.06.

The following is a quotation of the **first paragraph** of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Drawn to Written Description- immunogenic part of SEQ ID NO: 6:

Claims 11-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. Possession may be shown. **For claimed product** the specification must provide sufficient distinguishing identifying characteristics of the genus, including disclosure of complete or partial structure, physical and/or chemical properties, functional characteristics, structure/function correlation, methods of making the claimed product, or any combination thereof.

The claims are broadly drawn to a vaccine comprising a peptide wherein the peptide comprising a portion consisting of an immunogenic part of SEQ ID NO: 6 (14 aa), which is sufficient to stimulate an anti-cancer immune response against COA-1 protein (SEQ ID NO: 2, 437 aa) and immunogenic part is processed or expressed by antigen presenting cell comprising PBMC in associated with sympathetic MHC class II molecule (see 112 2nd rejection above) or HLA DRβ1*1301 allele. Thus, the claims are including a genus of vaccines comprising a part or fragment (immunogenic part) of SEQ ID NO: 6, which could be in any length and at any location within the part/fragment has the claimed function as an immunogen.

The specification teaches immunogenic peptide SEQ ID NO: 6 (TLYQDDTLTLQAAG) from COA-1 protein and six amino acids additions of ESTFPP or LVPKAA at N- or C-terminus of the SEQ ID NO: 6 respectively. The specification then teaches that the immunizing peptide comprising an epitopic portion of SEQ ID NO: 6, is usually 14 amino acid long and deletion of a few residues from either end may still serve to produce immunity (page 3, para 3). However, the specification discloses neither the immunogenic part of the sequence, or which amino acids at N- or C- terminus can be deleted to maintain the activity or function, nor actual reduction of practice of the immunogenic part.

The specification on page 26 teaches the peptide of SEQ ID NO: 6 (TLYQDDTLTLQAAG), and L at position 2, T at position 7, and L at position 10 are the binding motif for HLA-DRβ1*0402, but it was not possible to identify the potential anchor residues in the sequence that is involved in binding the HLA DRβ1*1301 (elected MHC

allele). Thus, the specification does not identify the immunogenic peptide associated with such MHC molecule as claimed (claim14).

A description of a genus may be achieved by means of a recitation of a representative number of species falling within the scope of the genus or by describing structural features common the genus that "constitute a substantial portion of the genus." See University of California v. Eli Lilly and Co., 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997): "A description of a genus of cDNAs may be achieved by means of a recitation of a representative number of cDNA, defined by nucleotide sequence, falling within the scope of the genus or of a recitation of structural features common to the members of the genus, which features constitute a substantial portion of the genus." The Federal Circuit has recently clarified that a DNA molecule can be adequately described without disclosing its complete structure. See Enzo Biochem, Inc. V. Gen-Probe Inc., 296 F.3d 1316, 63 USPQ2d 1609 (Fed. Cir. 2002). The Enzo court adopted the standard that the written description requirement can be met by "show[ing] that an invention is complete by disclosure of sufficiently detailed, relevant identifying characteristic, i.e., complete or partial structure, other physical and/or chemical properties, functional characteristics when coupled with a known or disclosed correlation between function and structure, or some combination of such characteristics. " Id. At 1324, 63 USPQ2d at 1613".

The court has since clarified that this standard applies to compounds other than cDNAs. See University of Rochester v. G.D. Searle & Co., Inc., F.3d ,2004 WL 260813, at *9 (Fed.Cir.Feb. 13, 2004). The instant specification fails to provide sufficient descriptive information in the broadly claimed immunogenic part of the SEQ ID NO: 6. The specification does not provide a specific or detail structural characteristics or motif of the immunogenic part of SEQ ID NO: 6 related to the function recited in the claims. Thus, one of skill in the art would reasonably conclude that the inventor(s), at the time the application was filed, **did not have** possession of the claimed invention.

Immunogenic peptide binding to specific MHC restricted cell are often structure and sequence specific, changing (adding, deletion or substitution) one amino acid in the structure, could affect the binding and immunogenic reaction. Harig et al (Blood, 98

(10): 2999-3005, 2001) list and compare numbers of antigens for the HLA restricted T cell binding and CTL stimulating activities and conclude that even one amino acid substitution could decrease the binding half life to less than 10% and more than 50% of the CTL cytotoxicity (table 1, see each pair).

The instant specification neither provides sufficient descriptive information in the immunogenic peptide within the sequence of SEQ ID NO: 6, nor the part that could bind to the sympathetic MHC class II allele or specific MHC of HLADRβ1*1301 allele. Thus, one of skill in the art would reasonably conclude that the inventor(s), at the time the application was filed, **did not have** possession of the claimed invention.

Vas-Cath Inc. v. Mahurkar, 19USPQ2d 1111, clearly states "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed*." (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See *Vas-Cath* at page 1116). As discussed above, the skilled artisan cannot envision the detailed chemical structure(s) and functional attribute(s) of the encompassed genus of variants or derivatives used in the method, and therefore conception is not achieved until **reduction to practice has occurred**, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolating it. The compound itself is required. See *Fiers v. Revel*, 25 USPQ2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016.

One cannot describe what one has not conceived. See *Fiddes v. Baird*, 30 USPQ2d 1481 at 1483. In *Fiddes*, claims directed to mammalian FGF's were found to be unpatentable due to lack of written description for that broad class. The specification provided only the bovine sequence.

Therefore, only the peptide consisting of the sequence of SEQ ID NO: 6 or comprising thereof, but not the full breadth of the claims, meets the written description

provision of 35 U.S.C. §112, first paragraph. Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision (see page 1115).

Applicant may also refer to ***Written Description Guideline at USPTO website:*** http://www.uspto.gov/web/patents/guides.htm

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 11-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Gu et al (CN1403480, published March 2003, English translation is provided in the Office action 3/1/2010).

> Claims are drawn to a vaccine comprising a peptide comprising a portion consisting of all or an immunogenic part of the amino acid sequence set forth in SEQ ID NO 6, where said portion is sufficient to stimulate an anti-cancer immune response against COA-I (SEQ ID NO 2), and wherein the immunogenic part of the sequence is processed and expressed by antigen presenting cells in association with sympathetic MHC class II molecules.

In view of indefinite clause "sympathetic MHC class II molecule", the clause is interpreted as a (any) MHC class II molecule that could associate with and present the sequence of SEQ ID NO: 6.

Term "vaccine" means intended use in vivo to induce immune response, therefore, term vaccine self is given no patentable weight and the weight is given by function.

Gu et al disclose a 131 amino acid peptide (sequence no. 5) that comprises the entire sequence of SEQ ID NO: 6 as the following sequence search alignment (See SCORE for more):

```
PI   Gu J,  Yang S;

PT   Human protein with function of suppressing cancer cell growth and its
PT   coding sequence.
XX
PS   Claim 1; SEQ ID NO 5; 42pp; Chinese.
SQ   Sequence 131 AA;

  Query Match            100.0%;  Score 70;  DB 1;  Length 131;
  Best Local Similarity   100.0%;
  Matches   14;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 TLYQDDTLTLQAAG 14
              ||||||||||||||
Db         50 TLYQDDTLTLQAAG 63
```

Gu et al disclose that the peptide has cancer suppressing function (abstract). Gu et al further disclose a pharmaceutical composition comprising the peptide and a carrier for directly administering a patient for treating a tumor (page 13-14). The pharmaceutical composition of Gu et al above administered to a patient would perform the function as the claimed vaccine because the composition and instant vaccine comprises the same component. Since the structure of the peptide is identical and comprises the full amino acids of the instant SEQ ID NO: 6, the peptide of Gu would

meet the limitation of the vaccine and have a function of binding to sympathetic MHC class II molecule.

2. Claims 11-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Isogai et al (US 20030236392, published Dec 2003, filed Mar 2002).

The claims are set forth above.

In view of indefinite clause "sympathetic MHC class II molecule", the clause is interpreted as a (any) MHC class II molecule that could associate with and present the sequence of SEQ ID NO: 6.

Term "vaccine" means intended use in vivo to induce immune response, therefore, term vaccine self is given no patentable weight and the weight is given by function.

Isogai et al disclose a 198 amino acid peptide (sequence no. 5) that comprises the entire sequence of SEQ ID NO: 6 as the following sequence search alignment (See SCORE for more):

```
US-10-104-047-2113
Sequence 2113, Application US/10104047
US-10-104-047-2113

  Query Match            100.0%; Score 70;  DB 2;  Length 198;
  Best Local Similarity   100.0%;
  Matches   14;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 TLYQDDTLTLQAAG 14
              ||||||||||||||
Db        135 TLYQDDTLTLQAAG 148
```

Isogai et al disclose that the peptide is a cancer associated antigen and further disclose a pharmaceutical composition comprising the peptide and a carrier for administering a patient with tumor for treatment. The pharmaceutical composition of Isogai et al above administered to a patient would perform the function as the claimed

vaccine because the composition and instant vaccine comprises the same component. Since the structure of the peptide is identical and comprises the full amino acids of the instant SEQ ID NO: 6, the peptide of Isogai et al would meet the limitation of the vaccine and have a function of binding to sympathetic MHC class II molecule.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquires set forth in Graham V. john Deere Co., 383 U.S. 1, 148 USPQ 459 (1996), that are applied for establishing a background for determining obviousness under 25 U.S. 103 (a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or obviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 11-14 are rejected under 35 U.S.C. 102(a) as being anticipated by Gu et al (CN1403480, published March 2003, English translation is provided in the Office

action 3/1/2010) or Isogai et al (US 20030236392, filed Mar 2002) in view of Chaux (US 20030170792, published Sep 2003, filed Jun 2002).

The claims 11-12 are set forth above, wherein the vaccine comprising the peptide and PBMC and MHC class II allele is HLADRβ11301.

The teaching of Gu or Isogai et al is set forth above.

Gu or Isogai et al do not teach the vaccine including the peptide plus peripheral blood mononuclear cells (PBMCs).

It is well known that antigen presenting cells including monocytes and dendritic cells in the PBMC express MHC class II that presents the immunogenic part of a antigen including tumor antigen. Forming a vaccine with such cells loaded with tumor antigenic peptides has been practiced for tumor treatment in the state of art. For example, Chaux et al teach tumor antigenic peptide and vaccine that comprises dendritic cells from autologous PBMC loaded with antigenic peptide for tumor treatment in said patient (page 10-11). Chaux et al teach that MHC(HLA) class II restricted peptides are 9-10 amino acids and the most of the peptides bind to HLA-DRβ1*1301 allele ([160]).

It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose. The idea of combining them flows logically from their having been individually taught in the prior art." SEE *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) and MPEP 2144.06.

It would have been prima facie obvious to one of ordinary skill in the art at the time the claimed invention was made to make a vaccine including the antigenic peptide

of SEQ ID NO: 6 and PBMC including dendritic cells or monocytes expressing HLA class II including HLA-DRβ1*1301 allele with expected result. One of ordinary skill in the art at the time the invention was made would have been motivated to prepare the vaccine with by substitute the peptide of CHaux for the full or antigenic part of SEQ ID NO: 6 alone or with dendritic cell isolated from the autologous PBMC that expresses HLA-DRβ1*1301 allele in order to induce full immune response and benefit for a cancer treatment in the patient and would have been further motivated to prepare the vaccine with by substitute the peptide of Chaux for the full or antigenic part of SEQ ID NO: 6 alone or together with autologous PBMC that express HLA-DRβ1*1301 allele in order to reduce the method step and cost because Gu or Isogai et al have shown that the peptide comprising the SEQ ID NO: 6 are immunogenic and could be a vaccine for inducing a immune response for tumor treatment and Chaus et al have shown the vaccine with dendritic cell in PBMC loaded with antigenic peptide. One of ordinary skill in the art at the time the invention was made would have had a reasonable expectation of success for combining the teachings to make a vaccine comprising both immunogenic peptide of SEQ ID NO: 6 and PBMC that mainly include the monocytes and dendritic cells that express the HLA class II allele or specific HLA-DRβ1*1301 allele which would present the peptide of SEQ ID NO: 6 because Gu or Isogai et al have shown the peptide is immunogenic and induce immunosuppression of tumor and Chaux et al have shown such PBMC comprising dendritic cells and monocytes expressing the specific class II allele and teach that the most of 9-10 amino acid peptides bind to the HLA-DRβ1*1301 allele. Therefore, the references in combination teach every limitation

of the claims and the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, absent unexpected results.

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lei Yao, whose telephone number is 571-272-3112. The examiner can normally be reached on 8am-6.00pm Monday-Thursday.

Any inquiry of a general nature, matching or file papers or relating to the status of this application or proceeding should be directed to Kim Downing for Art Unit 1642 whose telephone number is 571-272-0521

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Misook Yu can be reached on 571-272-0839. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Lei Yao/
Examiner, Art Unit 1642